



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER OF PATENTS AND TRADEMARKS
Washington, D.C. 20231
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/648,919	08/25/2000	Kenneth W. Marr	303.632US1	7312

21186 7590 08/27/2002

SCHWEGMAN, LUNDBERG, WOESSNER & KLUTH, P.A.
P.O. BOX 2938
MINNEAPOLIS, MN 55402

EXAMINER

NGO, NGAN V

ART UNIT PAPER NUMBER

2814

DATE MAILED: 08/27/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/648,919

Applicant(s)

MARR, KENNETH W.

Examiner

Ngan Ngo

Art Unit

2814

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 03 July 2002.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-29 and 33-35 is/are pending in the application.
- 4a) Of the above claim(s) 8-12 and 14-16 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-7, 13, 17-29 and 33-35 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

The amendment filed July 3, 2002 has been entered and made of record as paper no. 9.

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-7, 13, 17-22, 27 and 29 stand rejected under 35 U.S.C. 103(a) as being unpatentable over Duvvury et al(US-5493133).

Duvvury discloses an ESD protection circuit in figure 2 comprising a substrate (44), a first doped region (54) and a second doped region (52) separated from the first doped region by only the substrate region in which the ESD protection device does not have a gate electrode. It would have been obvious that Duvvury teaches the claimed device.

Claims 23-26 and 28 stand rejected under 35 U.S.C. 103(a) as being unpatentable over Duvvury (US-5,962,898).

Duvvury discloses an ESD protection circuit in figures 2 and 4 comprising a substrate (26), a first doped region (12) and a second doped region (14) separated from the first doped region by only the substrate region in which the ESD protection device does not have a gate electrode. Duvvury does not disclose two voltage sources. Mackawa discloses an ESD protection circuit comprising two voltage sources (VDD and GND), an external bonding pad (1704), and two protection circuits (1700 and 1702). It

would have been obvious to one of ordinary skill in the art to use two voltage sources in Duvvury's device provide extra protection circuit as taught by Mackawa.

Claims 33-35 are rejected under 35 U.S.C. 103(a) as being unpatentable over Shimizu et al in view of Lin.

Shimizu discloses an ESD protection circuit in figures 1 and 2 comprising a substrate (21), a first doped region (22) and a second doped region (23 or 24) separated from the first doped region by only the substrate region in which the ESD protection device does not have a gate electrode. Shimizu discloses that ESD protection circuit can be used a semiconductor chip. Note lines 17-24 of column 1. Shimizu does not disclose the connection between the ESD protection circuit and the pins of the semiconductor chip. However, Lin teaches that a protection circuit can be connected to the pins of the semiconductor chip. Note lines 52-57 of column 1 of Lin. Therefore, it would have been obvious to one of ordinary skill in the art to connect ESD protection circuit in Shimizu to the pins of the semiconductor chip in order to prevent ESD current from flowing into the internal circuit via the pins as taught by Lin.

Applicant's arguments filed July 3, 2002 have been fully considered but they are not persuasive.

The diffused regions 52 and 54 are separated only by the substrate region because both of the diffused regions are formed in the substrate region 44 and are separated from each other by distance d1. Even if the field oxide region 46 is removed or the field oxide was not formed, the diffused regions 52 and 54 are not connected to each other. Therefore, the diffused regions 52 and 54 are only separated from each

other by the substrate region because of the distance d1. New reference (Shimizu et al) clearly shows the two diffused regions separated from each other by the substrate region.

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.

Any inquiry concerning this communication should be directed to Examiner Ngan Ngo at telephone number (703) 308-4938. The fax number for the Art unit is (703) 308-7722.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Group receptionist whose telephone number is (703) 308-0956.

Ngan Ngo

August 19, 2002


Ngan Van Ngo
Primary Examiner